

STABILIZATION OF COOKED PASTA COMPOSITIONS USING WHEY FROM NISIN-PRODUCING CULTURES

ABSTRACT

The present invention provides fully cooked, ready to heat and serve
5 pasta compositions which are stabilized against the development of toxins
from pathogenic bacterial contaminants under refrigeration conditions for 120
days or more. The stabilized pasta compositions are attained by the
incorporation of nisin-containing cultured whey derived from a nisin-
producing culture. The cooked pasta compositions of this invention, which
10 include both filled and unfilled pasta compositions, are stable at refrigeration
temperatures for 120 days or longer and require no further cooking (i.e., the
pasta is fully hydrated and only requires warming before serving). The nisin-
containing whey can be prepared by forming an aqueous composition
comprising sweet whey from the fermentation of a cheese, whey protein
15 concentrate, and a protein hydrolysate; fermenting the aqueous composition
with a nisin-producing culture until the pH attains about 5.5; maintaining the
pH of the fermenting composition at about 5.5 for 8-10 hrs; and allowing the
pH of the fermenting composition to drop to 4.8 or lower. The nisin-containing
cultured whey can also be prepared by a inoculating a pasteurized dairy
20 composition with a culture of a nisin-producing microorganism, incubating the
composition until the pH attains a value between about 6.2 and about 4.0 and
a whey and curd mixture is formed, and separating the whey from the whey
and curd mixture to give the separated whey which is the nisin-containing
cultured whey. The pasta of the present invention is prepared from pasta
25 dough comprising about 55 to about 80 percent high protein wheat flour,
about 1 to about 5 percent wheat gluten, 0 to about 20 percent egg product,
0 to about 3 percent dough conditioner, sufficient nisin-containing cultured
whey to provide about 200 to about 1200 IU nisin/g pasta dough, and
sufficient water to provide a total moisture content of about 25 to about 35
30 percent. Sauces and/or fillings included with the pasta compositions are

preferably prepared using the same or similar nisin-containing cultured whey compositions to provide increased stability.

the first of these is the fact that the nisin is not destroyed by the heat treatment of the whey.